CIRM RFA 07-03

Application # FA1- 00614-1 (CIRM Special Programs)

PROPOSAL:

This Special Program application seeks CIRM funding to remodel an existing leased facility for a stem cell instrumentation foundry that will provide customized micro-systems for quantitative analyses of individual stem cells. The CIRM project consists of 5,420 assigned square feet (asf) and 8,140 gross square feet (gsf) with a total cost of $7,458,000 and requests CIRM funding of $5,128,000. The tools and devices generated in the foundry will increase understanding of the fundamental biology of stem cells, specifically, how stem cells make decisions. The proposal focuses on multi-disciplinary interactions, particularly between bioengineering and the sciences. The remodeled area includes space for research activities, offices and support. The foundry includes sophisticated Class 1000 and Class 100 clean rooms (highly filtered spaces where there are fewer than 1,000 particles or 100 particles per cubic foot of air in the space) for micro/nano fabrication. These facilities do not exist elsewhere at this institution or in the region. At occupancy, the facility will house eight existing Principal Investigators (PIs) and their research teams. Completion of the project is scheduled for June 2010.

SPACE SUMMARY TABLE

Space Category	Amount of space (asf)	Percent of total	ASF per PI at 8
Lab, Lab Support, PI Offices	2,020	37%	253
Core Facilities	2,200	41%	275
Other Support Space	1,200	22%	150
Total	5,420	100%	678

STAFF ANALYSIS:

VALUE:

Costs:

Cost Summary Table

Cost Category	Total Amount	Amount/ PI
Building	$7,000,000	$875,000
Group 2 Equipment	$458,000	$57,250
Total	$7,458,000	$932,250
CIRM Amount	$5,128,800	$641,100
Applicant Amount	$2,329,200	$291,150

The estimated total project cost is $7,458,000 consisting of $7,000,000 for construction and $458,000 for Group 2 equipment. The CIRM funding is $5,128,800, which is 68.8% of the total cost. The facility is 66.3% efficient, which is slightly higher than the 65%

average for CIRM Special Program applications. The cost per gross square foot is $860, reflecting the high cost for clean rooms, which demand significantly greater mechanical requirements than typical biochemistry laboratories. The CIRM cost (excluding cores) is $380,875 per PI, below the average of $892,213 per PI for applications in this funding category. This proposal also provides less laboratory space per PI (678 asf/PI) than the other two proposals in this category (3,459 asf/PI and 2,180 asf/PI).

Sustainability & Innovation

The design of the renovated space is expected to achieve a LEED certification at the certified level, but the applicant does not intend to seek certification. This decision is reasonable because there are limited opportunities to achieve significant improvements. The project is a remodel of space in an existing building, and relies on building-wide systems that would be too costly to upgrade as part of this project.

Elements of the application cited as innovative were limited and typical for science remodels.

LEVERAGE:

The application includes leverage of $1,303,440. This represents the institutional investments in excess of the required matching funds after conforming fees and administrative costs to the allowable amount. The CIRM funds to leverage ratio is 1:0.25. When both matching and leverage funds are considered, this ratio rises to 1:0.44. The following table compares the leverage for this application (crosshatched) to the other applications in the category of CIRM Special Programs.

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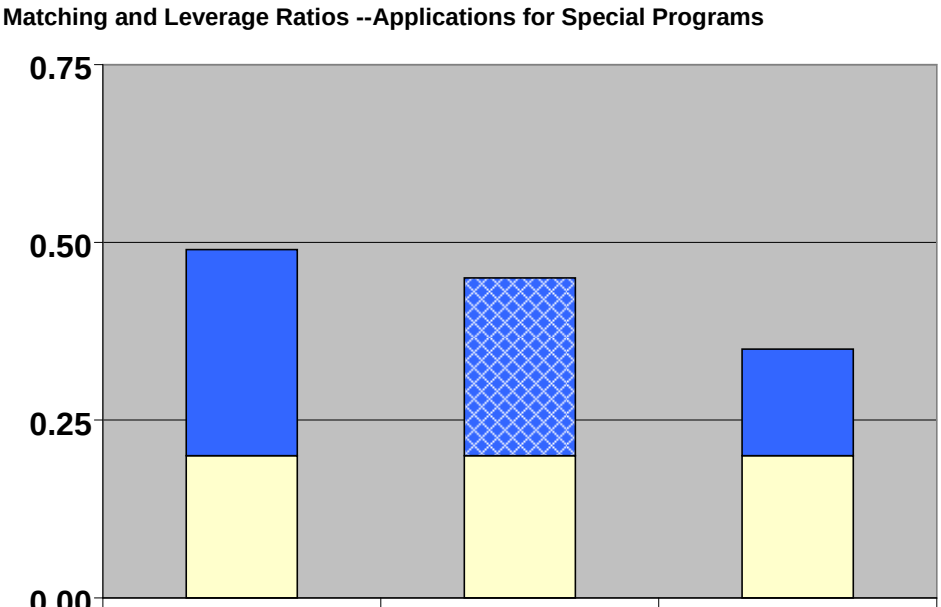

	FA1-617-1	FA1-614-1	FA1-616-1
Leverage	0.29	0.25	0.15
Matching (.20)	0.20	0.20	0.20

URGENCY:

The applicant will begin planning activities in June 2008. The project schedule indicates that construction is to begin in May 2009 with completion by June 2010. The project qualifies for priority consideration because completion is projected within two years from approval of the grant.

The applicant's team for managing delivery of the project is well qualified and experienced in projects of similar scope. Based on the applicant's past construction experiences the team has the potential of delivering the project as approved.

SHARED RESOURCES:

The scientific program, mission and proposed facilities are designed to support the applicant's stem cell program, as well as encourage stem cell biologists at other institutions to utilize new technologies. The core facility is noted as a model of a shared facility for the applicant's faculty, students, visiting scientists from other institutions, and stem cell researchers throughout California.

The institution proposes a regional/statewide resource for specialized foundry and clean rooms, which will assist researchers in developing new technologies.

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Cores:

- Collaborations with UC Davis and UC San Francisco
- Cytometry and Cell Imaging
- Vivarium – Animal Housing and Surgical Suites
- Genomics
- Imaging and Microscopy Facilities

FUNCTIONALITY:

The core facilities are designed to enable multiple users to access the facility, for microfabrication, stem cell culture and microenvironment manipulation, data collection and analysis. In addition, the program is based on building a database of designs for various experimental tasks in stem cell research, which will be open to the scientific community to enable more biologists to use state-of-the-art technologies in their research without prior experience in microfabrication. The design for the space to be remodeled will provide functional layout of laboratories, support, core facilities and offices that are consistent with good design principles and safety standards.

SUMMARY OF ISSUES FOR THE FACILITIES WORKING GROUP EVALUATION

Functionality: How will the FWG weigh the significance of facilities that provide a statewide core resource?